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Transportation for Older Americans

Issues and Options for the Decade of the 1980's

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On the cover, some of the members of Gadsden County Senior Citizens are shown using the Big Bend Transit System for a Christmas shopping trip. Big Bend Transit serves an eight-county area in Western Florida near Tallahassee. This photo was provided courtesy of Ted Waters of Big Bend Transit.

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Issues and Options for the Decade of the 1980's

Final Report
April 1983

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NOTE: This report is an analysis commissioned to help state and local officials assess future options and plan services for elderly people. Part of its content includes policy and other recommendations based on this contractor's perceptions of the issues involved. Recognizing that there may be alternative approaches to resolving these transportation problems, the positions expressed may not necessarily reflect those of the U.S. Government. As such, no endorsement of these recommendations is either expressed or implied by the U.S. Department of Transportation.

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TRANSPORTATION FOR OLDER AMERICANS: ISSUES AND OPTIONS FOR THE DECADE OF THE 1980s

PREFACE

This report is intended to provide information to support state and local governments as they proceed with planning, policy formulation, and program implementation of transportation services for the elderly.

The period of the Eighties constitutes what some have described as the "second generation" of transportation developments for older Americans. The substantial efforts made in specialized transportation over the decade of the 70s have produced a substantial network of local transportation services serving the elderly throughout the United States. However, the future direction of transportation services for the aging in the 80s should be different: more sharply focussed, and considerably more sophisticated in terms of techniques, technology and management procedures now available to transportation providers.

The material in this document is drawn largely from two major sources: 1) demographic and social data on the elderly derived from the 1980 U.S. Census of Population; and 2) findings and proposals emerging from the 1980 Mini-Conference on Transportation for the Aging sanctioned by the 1981 White House Conference on Aging.

The Mini-Conference brought together a broadly based and knowledgeable group of elderly consumers; transportation providers; advocates of specialized transportation; federal, state, and local government officials; representatives of national and state organizations, and consultants in the field of specialized transportation. The Mini-Conference proposals were subsequently published by the White House Conference on Aging and distributed to delegates attending the 1981 event. However, there was no specific session at the later conference devoted primarily to transportation; transportation issues were dealt with as part of other substantive sessions.

This report is divided into five main sections. It begins with a background statement of issues, and identifies the changing conditions that lie ahead. This is followed by a section detailing the demographic, economic and social changes among the elderly as revealed by data from the 1980 and 1970 U.S. Census. The third section addresses the transportation implications of the demographic and other changes revealed by the data in the preceding section. The fourth section analyzes three major overarching issues, relevant to transportation: inflation, energy and funding. The final section is a detailed report on policy, planning and program issues and options in serving the elderly and handicapped highlighting topics stressed by the participants at the Mini-Conference on Transportation for the Aging.

We cannot conclude this preface without acknowledging the contributions of a considerable number of people who gave financial and other forms of support to this project. These include the members of the Planning Committee, the Chairpersons and the Recorders of the 16 sessions of the Mini-Conference, staff of the White House Conference on the Aging, and several staff members of the U.S. Department of Transportation. At Florida State University, two staff members were extremely helpful on this project. Ms. Judy Meyer of the Multidisciplinary Center on Gerontology facilitated the Mini-Conference, and Ms. Mary Schneider of the Policy Sciences Program patiently typed and re-typed several versions of this monograph to achieve the final product.

We want to thank, in particular, Norman Paulhus of the U.S. Department of Transportation's Office of Technology and Planning Assistance. His firm and consistent support has been highly instrumental in the completion of this project.

William G. Bell

April, 1983 Joseph S. Revis

I. BACKGROUND

A. Increasing Awareness of the Issues

Since 1970, in the United States, there has been a growing awareness that the lack of transportation represents a serious limitation to the physical and emotional well-being of elderly and handicaped people. A variety of programs have been designed since then to provide transportation to these two groups. A great deal of research and many programs have been initiated at all levels of government and in the private sector; government policies and programs dealing with the transportation problems of the elderly and handicapped have expanded greatly over the last ten years.

The Urban Mass Transportation Administration (UMTA), the agency within the Department of Transportation responsible for transit, runs a multi-million dollar demonstration program which includes elements for the handicapped, elderly and the poor. It has provided rules and regulations assuring accessibility to public transit by those target groups. In addition, a major transportation program has been developed for rural areas under Section 18 of the Urban Mass Transportation Act of 1964, as amended. The Department of Health and Human Services, including the Administration on Aging, has also sponsored research and demonstration programs, and in recent years expanded emphasis on transportation as a major element of programs serving the elderly.

State and local governments have also become increasingly concerned and involved with transportation for the elderly through their human resource programs and/or their public transportation programs. Coupled with private sector actions, there are now an increasing number of private and volunteer programs serving the transportation disadvantaged.

Important efforts are also underway in inter-urban transport. Airlines have been required to set forth procedures for carrying the handicapped, and the national rail service, AMTRAK, intends to have special accomodations for the handicapped on present and future new equipment. Facility and procedure changes have included some station

modifications, allowing seeing-eye dogs on trains, discounts for the blind who travel with an escort, and teletypewriters for the deaf.

In summary, over the decade of the seventies a wide range of programs concerned with the transportation problems of older Americans emerged. Special legislation passed and programs were implemented and paid for by all levels of government, as well as the private sector. A flow of studies and reports brought and kept the issue before Congress, the federal government, and the public during this period, and this flow continues today.

There is now in place a substantial transportation infrastructure capable of delivering significant volumes of service to elderly persons. Estimates indicate that in 1980 somewhere between 2800 to 3200 specialized transportation projects were being funded under Title III of the Older Americans Act alone.[1] That estimate is probably low; it does not include transportation projects funded by Section 5, 16(b)(2), or 18 of the Urban Mass Transportation Act, or Titles XIX and XX of the Social Security Act, or the other funding sources available for specialized transportation. This also does not include the substantial network of public transit and paratransit services, nor the significant volume of private providers serving the elderly.

By the time the 1981 White House Conference on Aging took place, the elderly had access to a higher quality and quantity of transportation as a whole than they had when the decade of the 70s started. But the degree of mobility improvement depends upon the standards used to measure it. For example, the size of the elderly market as a share of the overall population has grown steadily. Even without budget constraints, it would be difficult to supply enough transportation service to meet the needs of the increasing number of older persons requiring transportation services.

Though there is a substantial network of providers now operating, new problems have replaced old ones. As more has been learned about ways to improve the efficiency and effectiveness of service delivery, such matters as the costs of operating these services, accounting for the costs of operation, and barriers to coordination of existing

transportation systems, have gained added importance. These concerns have been exacerbated by inflation, increasing competition for governmental funds, overall economic conditions, and demographic changes. The role of state and local government is changing, and anticipated demographic changes indicate a greater need for consideration of the needs of the elderly in policy formulation by those groups.

Some approaches to serving the elderly did not proceed as anticipated. TRANSBUS, extolled by some for its low-floored, wide-doored, ramp-equipped specifications, was never built or accepted by the bus manufacturers. Unquestionably, the failure of TRANSBUS was due to many factors, many of which were not related to the elderly. But the fact that it was perceived to be one of the most promising developments of the decade for the elderly lends insight into how events have changed. After 1976, the increasingly insistent demand from some disabled for fully accessible line-haul transit led to issuance of a series of U.S. Department of Transportation interim regulations in support of Section 504 of the Rehabilitation Act of 1973. This directed attention toward developing accessible, lift-equipped transit buses for wheelchair users and away from the issues of mobility and accessibility as seen by the elderly.

The focus and priority of 504 regulations on wheelchair-bound individuals may not always serve the elderly well. The National Survey of Transportation Handicapped People[2] notes the higher incidence of visual and hearing problems for the elderly, and their need for mechanical aids other than wheelchairs. Illustrative of this is the experience with "kneeling buses". The kneeling bus provides an effective means for assisting elderly with walking or step climbing difficulties, but not necessarily for those with other problems. Though the transit literature reveals many instances of kneeling buses being purchased, there has been little or no evaluation of the actual use and impact of these vehicles upon the system or users. Since there is little information about whether this attribute is an effective means to overcome the system constraints of the

elderly and disabled of all ages, there has therefore been little encouragement to use the kneeling feature of new buses.

B. Changing Priorities and Focus for the Eighties

The dramatic changes since 1980 make it quite evident that over the next decade new priorities for the elderly are likely to emerge. Several factors may be expected to stimulate these shifts, and it is useful to identify the most important.

Resource Stringency: Under present circumstances and national policy, public resources are seriously limited. These constraints on available resources are likely to continue over the next few years, and probably over the remainder of the decade. In that context, it will be essential to more carefully define goals and set priorities in terms of the transportation services that are needed by the elderly. Over the decade, prioritization of competing needs will be a very important consideration in developing programs at the state and local levels.[3]

Changing State and Local Roles: In view of the increasing limitations that may be anticipated in the availability of federal resources for transportation services generally, and for older Americans in particular, the state and local role will become increasingly important. The states will need to address two distinct problems: (1) to make decisions on how and whether to replace funding currently flowing from federal programs and which will either have to be replaced or eliminated; and (2) if they try and replace federal funds, the extent to which the state or local tax and fiscal base can or is willing to support increased tax levels to maintain or expand services. It is probably realistic to assume that some new financial support will be found, but not necessarily large enough to replace federal funding. That will require some state and local program reduction in transportation, which, in turn, supports the need for prioritization.

Private Sector and Volunteer Activities: Volunteer activities have always been important in terms of the provision of transportation services to older Americans. This

is particularly true for human service agency programs. A recent report undertaken for the Administration on Aging on the transportation problems of older Americans indicated that many agencies serving the elderly already are using volunteers extensively in their programs.[4] Given the stringency in resources which may be anticipated over the next decade, programs to increase the role of volunteers are likely to become increasingly important.

Closely related will be an increased role for the private sector, either as a contributor of funds or in serving in volunteer roles. This aspect of transportation program development for older Americans has only been developed in a very limited and rudimentary way to date. Corporate donations have always been part and parcel of social program efforts in the United States. However, at least as far as specialized transportation is concerned, the scope of increase is not likely to be sufficient to close the gap opened by federal budget cuts.

There is little question that the scope of private involvement could be increased. However, this increase is likely to depend largely on economic conditions. Though opportunities for expanding the role of the private sector should not be overlooked, the degree to which that potential can be realized therefore remains to be ascertained.

Inflation: Though progress in reducing inflation appears to have been successfully achieved as of this writing, **inflation will be an important issue** over the remaining part of the decade of the eighties. With good fortune, the average rate of price increase may be in the range of approximately 5-10 percent. If energy and other costs are not held under reasonable control, the rate of increase could be considerably higher. In the context of inflation of 5-10 percent over the decade, the pressure for increased resources just to maintain levels of transportation services is likely to be substantial, and will generate considerable emphasis on efficient use of the resources available.

Energy costs: If energy costs increase at about the same rate as they have in the last 3 to 5 years, the problems of maintenance of service will be further compounded.

The impact of increased energy costs on the operation of transportation services is direct, and these increases will place added pressure on the funds available for service maintenance — let alone provide for capital improvements or expansions.

Demographic changes: In addition to economic and fiscal factors, there are important demographic changes that are anticipated over the decade. Discussed in some detail in the next section of the report, they include a significant increase in the number of elderly, a substantial expansion in the proportion of frail elderly (those generally 75 years or older), an increase in the number of driver-licensed elderly, and an increase in the number of part-time elderly workers with commensurate demand for transit services.

Rural programs: The rural public transportation program under Section 18 is scheduled for continuation at about the same absolute levels as in the past, set at 2.93 percent of the overall federal transit program level. Section 18 programs in many states tend to be strongly concentrated in supporting transportation services already started and operating. New projects are difficult to implement, and there is no public (or private) transportation network comparable to that found in urban areas to provide service in rural areas. Over the next decade, major strategy may be directed toward developing such networks. If rural transportation funds become scarcer, then the controversy over allocation between present and prospective recipients may be expected to intensify.

II. A DEMOGRAPHIC, ECONOMIC AND SOCIAL VIEW OF THE EIGHTIES

A. The Elderly Population

1. Overall Growth

Early results from the 1980 U.S. Census revealed that in the decade of the Seventies the older American population exhibited marked growth in two demographic aspects. The absolute number of older Americans, persons aged 65 years and over, increased as did their proportion of the total population.[5] As of April 1, 1980, elderly persons in the United States totalled some 25.5 million, or 11.3 percent of the national population. In contrast, on April 1, 1970, the elderly population totalled approximately 20.0 million, or 9.3 percent of the population. Compared with the population as a whole, the elderly population increased by 27.9 percent over the decade compared to only 11.4 percent for the general population.

Currently, older Americans in the U.S. add to their numbers at the rate of approximately 600,000 per year. If the present rate of growth continues (as it gives every appearance of doing), by 1985 the aged or elderly population will be around 27.4 million. By 1990 it will rise to 30.5 million, and will represent about 12.3% of the total population in the U.S. Changes for the group 55 years and over, in the decades since 1900 are summarized in Table 1.

Table 1

U.S. Population 1900-2040[a]
For the Age Group 55 and Over
(in millions)

Age	1900	1950	1970	1980	1990	2000	2020	2040
55 - 64	4	14	18	21	20	24	37	35
65 and over	3	12	20	25	30	31	45	55

a. Figures for 1980+ are projections.
Source: U.S. Census Bureau

By the year 2000 the elderly population 65 or older will have increased to about 31 million, remaining relatively level over the prior decade. However, from 2000 onward there will be a sharp increase in the elderly population reflecting the "arrival" of the World War II postwar "baby boom". Thus by the year 2020 it is estimated there will be 45 million elderly and by 2040 the population of elderly will have increased to 55 million. These estimates by the Bureau of the Census assume the continuation of current death rates. If death rates decline as they did in the seventies, then the estimates in Table 1 are obviously too low.

2. Changes in Age Composition

The implications for the structure of our society, economy and programs are readily apparent even from these general totals. However, the implications become even more important when one takes into consideration changes in the elderly population beyond these simple totals. Analysis of the composition and characteristics of the older American population in 1980 reveals significant differences from their 1970 counterparts. These include the age structure of the population 65 years and over, ratio of men to women, educational attainment, labor force participation, their changed economic levels, the numbers classified as poor, and growth of the ethnic elderly.

Table 2 shows the age mix of the U.S. population over the period 1900 to 2040. As may be readily seen, from 1910 to 1980 the age group 65 or over increased from 4.3 to 11.2 percent of the total population. By 2040 the elderly are projected to account for about 18 percent of the U.S. population. This is due partly to the sharp decline in the birth rate (reflected in the declining share of population under 18 years of age) but it also reflects the increased survival rate of the elderly age cohort.

Table 2

U.S. Population 1910 - 2040[a]
by Age Group - in Percent

Age Group	1900	1950	1970	1980	1990	2000	2020	2040
Under 18	38.0	31.0	34.3	27.9	26.6	26.5	24.6	24.0
18 - 54	52.2	52.0	46.7	51.3	52.6	52.3	47.0	47.4
55 - 64	5.5	8.0	9.1	9.6	8.5	9.0	12.8	10.8
65 or over	4.3	8.2	9.9	11.2	12.3	12.2	15.6	17.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

a. Figures for 1980+ are projections.
Source: U.S. Census Bureau

Within the broad population aged 65 years and over, the trend between the two most recent Census periods is in the direction of what one demographer calls "the aging of the aged." These trends are summarized in Table 3 and Figures 1 and 2.

Table 3 shows that the age group 85 and over increased from about 7 percent of the elderly in 1970 to 9 percent in 1980. Projections indicate that by 2010 that the population 85+ will account for almost 15 percent of the elderly (Figure 2). These increases, however, are by no means uniform among men and women. For example, for the period from 1970 to 1980 the male population aged 85 years and over increased by 39 percent; in contrast the increase for women in the same age group was 70 percent (Table 3). Similarly, the proportion of elderly 85+ is higher among women than for the men.

The increasing proportion of frail elderly, those 75 years or older, in the population suggests a sub-group of elderly with increased limitations on activities, increased demand for health care and greater limitations on their mobility. Although the full implications, in transportation terms, of the changes in the age structure of the aged population

Table 3

Resident Population 65 Years and Over in the United States, by Age and Sex:
April 1, 1980 and April 1, 1970

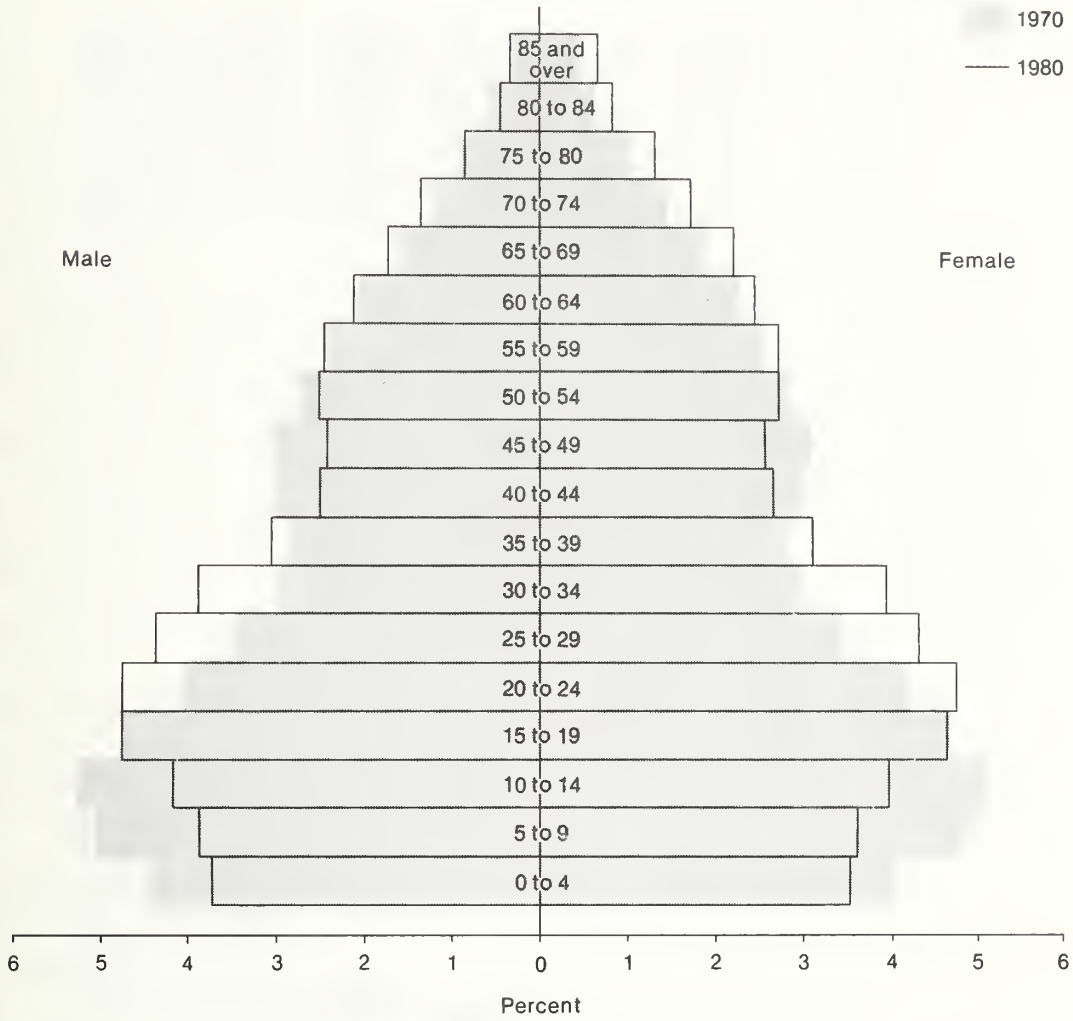
Age and Sex	Population		Percent distribution		Population change 1970-80	
	1980	1970	1980	1970	Number	Percent
Total both sexes	**25,544,133**	**19,972,336**	**100.0**	**100.0**	**5,571,797**	**27.8**
65 to 74 years	15,577,586	12,442,573	61.0	62.3	3,135,013	25.2
75 to 84 years	7,726,826	6,121,627	30.2	30.6	1,605,199	26.2
85 years and over	2,239,721	1,408,136	8.8	7.1	831,585	59.1
Male	**10,302,601**	**8,366,945**	**100.0**	**100.0**	**1,935,656**	**23.1**
65 to 74 years	6,755,199	5,440,350	65.6	65.0	1,314,849	24.2
75 to 84 years	2,865,974	2,437,244	27.8	29.1	428,730	17.6
85 years and over	681,428	489,351	6.6	5.9	192,077	39.3
Female	**15,241,532**	**11,605,391**	**100.0**	**100.0**	**3,636,141**	**31.3**
65 to 74 years	8,822,387	7,002,223	57.9	60.3	1,820,164	26.0
75 to 84 years	4,860,852	3,684,383	31.9	31.8	1,176,469	31.9
85 years and over	1,558,293	918,785	10.2	7.9	639,508	69.6

Source: Adapted from Population Profile of the U.S.: 1980, Bureau of the Census, Series P-20, No. 363, Table 4, p. 9.

Figure 1

Percent Distribution of the Resident Population

by Age and Sex: April 1, 1980, and April 1, 1970

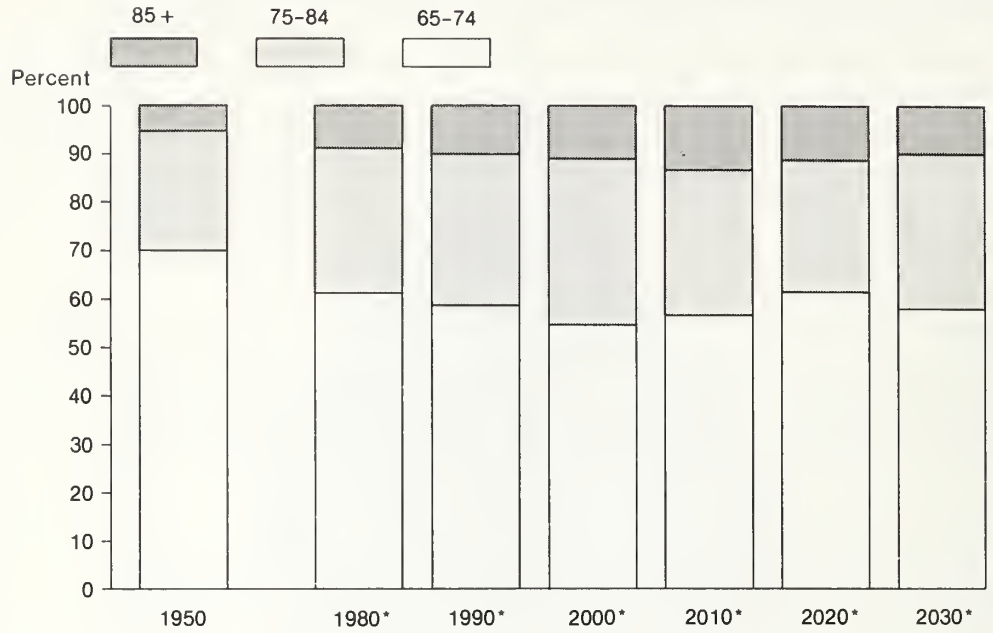


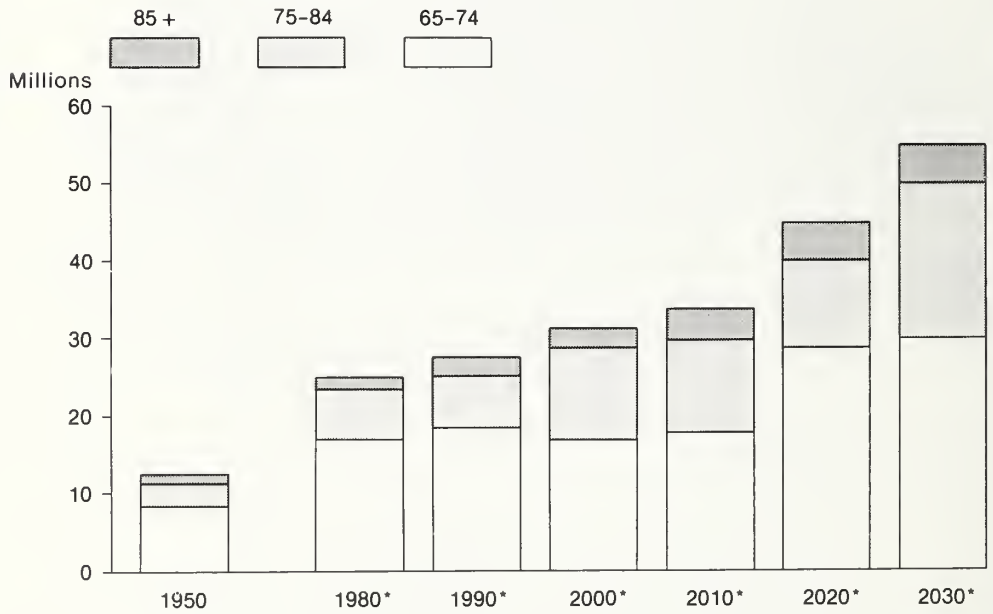
Source: 1980 and 1970 censuses.

Figure 2

Distribution of the Older Population

by Age Group, 1950 and 1980 to 2030





*Projections

Source: *Chartbook on Aging in America* (Washington, D.C.: The 1981 White House Conference on Aging), p. 7.

cannot yet be estimated, it is quite evident that the need for more specialized transportation by the frail elderly is highly probable.

The relative increase in the limitations of activity by age is well illustrated in Figure 3. As may be seen, the age group 85 or over in 1978 reflected an incidence of 31 percent of that age cohort unable to carry on major activities. The comparable incidence for the age group 75-84 was 20 percent, which contrasts to only 14 percent of the age group 65-74 and 6 percent for the age group 45-64.

The contrast is equally dramatic when comparing the entire age group 65 years or older to the population as a whole (Figure 3). For example, only 4 percent of the total population in 1978 was unable to carry on any major activity. This contrasts to 17 percent of those 65 years or older. Perhaps even more telling is the fact that only 11 percent of the total population was unable to carry on a major activity or was limited in the amount or kind of activity they could carry out. This is in contrast to 39 percent of the population 65 years or older with the same activity limitation level. The consequences of these data for transportation policy and programming in the future seem readily apparent and will be discussed in Section III.

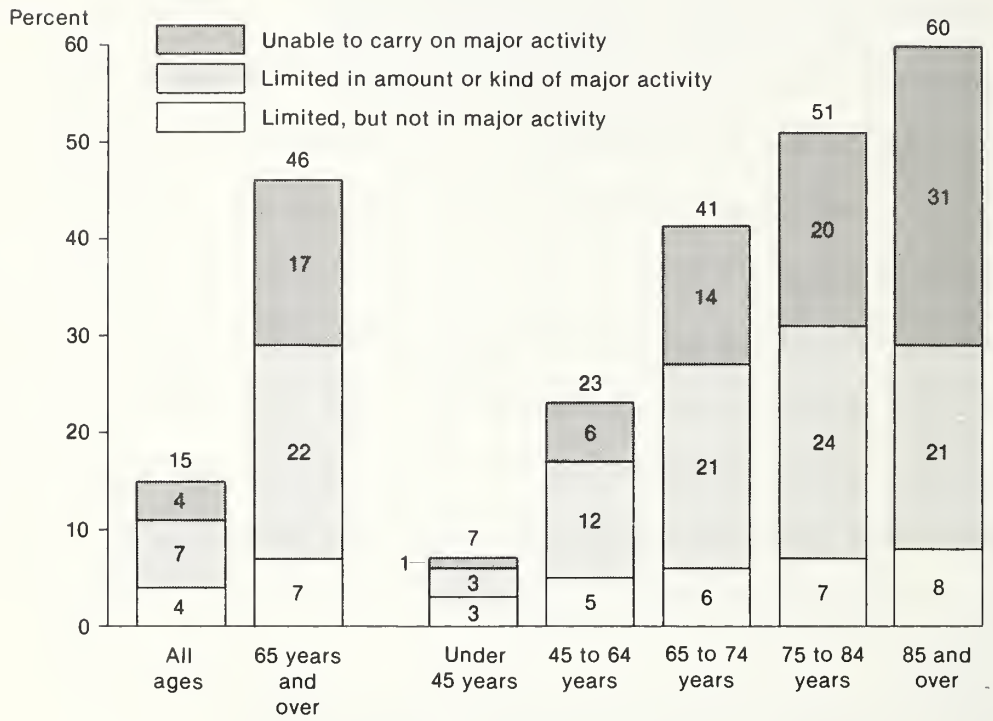
3. Changes in the Male/Female Distribution of the Elderly

While both sexes are living longer and the survival rates are expected to increase, characteristically older females outlive their male counterparts. For example, Table 4 shows that the median age at death of a female in 1977 was roughly 8 years older than corresponding males, irrespective of race. The same table shows that 83.8 percent of white females and 72.7 percent of non-white females survive to age 65; the corresponding percentage ratios for men were only 70.7 and 65.8 percent respectively. Two important points are raised by these data: one is the dramatic differences in survival rates between the white population and all other races, and the other is the longer survival period of women as compared to men. Though the differences between races

Figure 3

Percentage of Elderly with Limitation of Activity Due to Chronic Condition

by Age Groups and Type of Limitation: United States, 1978



Note: Includes only those persons with an activity limitation due to a chronic condition. Excludes elderly in institutions.

Source: *The Need for Long*-Term Care: Information and Issues (Washington, D.C.: U.S. Department of Health and Human Services, The Federal Council on the Aging, 1981), p. 29.

Table 4

Percent Surviving from Birth to Selected Ages, and Median Age at Death, by Color and Sex: Death-registration States, 1900-1902, and United States, 1959-61, 1969-71, and 1977

		WHITE		NON WHITE	
	Total	Male	Female	Male	Female
Percent surviving from birth:					
To age 1 year					
1977	98.6	98.6	98.9	97.6	98.0
1969-71	98.0	98.0	98.5	96.6	97.2
1959-61	97.4	97.4	98.0	95.3	96.2
1900-1902[a]	87.6	86.7	88.9	74.7	78.5
To age 20 years					
1977	97.5	97.2	98.2	96.0	97.1
1969-71	96.7	96.5	97.6	94.3	95.9
1959-61	96.1	95.9	97.1	93.1	94.7
1900-1902[a]	77.2	76.4	79.0	56.7	59.1
To age 65 years					
1977	75.6	70.7	83.8	55.8	72.7
1969-71	71.9	66.3	81.6	49.6	66.1
1959-61	71.1	65.8	80.7	51.4	60.8
1900-1902[a]	40.9	39.2	43.8	19.0	22.0
Median age at death					
1977	76.8	73.5	81.1	68.1	75.8
1969-71	74.9	71.5	79.5	64.8	72.8
1959-61	74.3	71.4	78.5	65.6	70.6
1900-1902[a]	58.4	57.2	60.6	29.8	34.3

a. For 1900-1902 figures for "All other male" and "All other female" include only the black population, which comprised 95 percent or more of the "All other" population.

Source: Vital Statistics of the U.S. 1977. Vol. 11-Sec 5, Life Tables DHEW Publication No. (PHS)80-1104, page 5-4.

may decline over time, over the next decade or so they are likely to continue (although the relative gap may diminish.) The same may be said for the survival rate of men versus women. However, in the next decades, a larger share of males will likely survive to age 65 — white and non-white, as will non-white of both sexes.

Dominance of the older American population, long held by females, is even more apparent as one surveys the upper regions of the age spectrum in 1980. Data in Table 3 well illustrates this conclusions. For example, data in Table 3 shows that over the ten year period from 1970 to 1980, the number of females aged 75-84 increased by about 32 percent while men in the same age group rose by only about half that rate (17.6 percent). Even more striking is the growth in the age group of females aged 85 years and over; females in this age group increased by almost 70 percent over the most recent Census period while males in the same age group increased by only 30.3 percent. One result of all this is that in 1970 there were 139 females aged 65 and over for every 100 males of the same age; in 1978 the ratio was 146 females to 100 males; and in 1980 it was 148:100.

Not only is the growth of the aging population between recent Census periods sharply directed towards females, but the differences in the ratio of elderly females to their male peers widens markedly as one moves up the age scale. Again turning to 1980, at age 85 the female:male ratio was 229:100. This should be contrasted to the ratio of 148:100 just noted for the entire population 65+. In effect the transportation market of elderly in the decade of the 1980's is not only likely to include a growing proportion of the "old-old," but also an increasing ratio of female riders of advanced age.

4. Changes in the Educational Level

There is little question regarding the improvement in the educational level of older persons in recent years. Data in Table 5 reflect the marked change that has occured in their educational levels by the Census periods 1970 and 1980.

Table 5

Years of School Completed by the Population 65 Years Old and Over, by Age, Sex, Race, and Spanish Origin: March 1980, and 1970
(Numbers in thousands. Noninstitutional population)

Age, Sex, Race and Spanish Origin	1980				1970			
		Percent completing . . .				Percent completing . . .		
	All persons	4 yrs. of high school or more	1 yr. of college or more	4 yrs. of college or more	All persons	4 yrs. of high school or more	1 yr. of college or more	4 yrs. of college or more
All Races								
65 years old and over	23,743	40.7	16.7	8.5	19,713	28.3	12.6	6.3
Male								
65 years old and over	9,783	39.1	17.7	10.2	8,364	25.9	13.4	7.9
Female								
65 years old and over	13,960	41.8	15.9	7.3	11,349	30.1	11.9	5.2
White								
65 years old and over	21,446	42.8	17.6	9.0	18,141	29.9	13.3	6.7
Black								
65 years old and over	2,019	17.7	6.0	3.2	1,417	9.0	4.4	2.0
Spanish Origin[a]								
65 years old and over	563	18.0	6.4	4.7	404	13.4	5.4	2.5

a. Persons of Spanish origin may be of any race.

Source: Adapted from Population Profile of the United States: 1980, Bureau of the Census, Series P-20, No. 363, Table 18, p. 25.

By 1980, 2 out of 5 older Americans achieved at least a high school education compared to the period ten years earlier when less than 1 out of 3 elderly could make that claim. Undoubtedly, the proportion of elderly in the decades ahead will reflect an even higher ratio of educated persons. (The elderly of 1980 were of grade school age in 1920, when the drive for literacy was not as strong as it subsequently became.)

High school graduates among the elderly are slightly more likely to be females than males, and are preponderantly white compared to blacks or persons of Spanish origin. The chance of encountering a 65 year old white with a background of 4 years in high school is 70 percent better than that of their black or Spanish origin peers.

Another change of significance, in educational terms, is the growing ratio of elderly with one or more years of college training. An estimated 25 percent of the elderly in 1980 completed at least one year of university in contrast to 1970, when less than 20 percent reported such training.

One's educational background is as significant for an elderly person as it is for others in an industrial society like the United States. The correlation between one's educational and income levels, and the obvious consequences of improved income status for an aging person's capacity to purchase housing, health care, transportation, and other necessities, has been highly documented in the literature.

In all likelihood the elderly of the 1980's, more than their counterparts in the 1970's, may be in a stronger economic position (subject of course to the inroads of inflation) to afford to own their own automobiles. Presumably the elderly of the 80's will be in better health, and thereby able to operate their vehicles for a longer period of time beyond age 65, than may have been the case for elderly in past decades.

5. Changes in Employment Status

The number and ratio of older persons in the labor force, both male and female alike, exhibited a decline between 1970 and 1980 according to estimates from the Bureau

of the Census (Table 6). For example, the relative share for males decreased from 26.8 percent in 1970 to 19.1 percent by 1980. A corresponding but substantially smaller decline is reflected for women — from 9.7 percent in 1970 to 8.1 percent in 1980.

The forecasts for the future call for a continuation of these trends although there are a number of offsetting factors of recent vintage. These include: a) the improved educational level of the elderly discussed above, suggesting that older people are not necessarily in low skill positions or in categories being phased out (early retirement) by technological changes in the United States; b) their presumed improved health condition flowing from their improved economic position, suggesting a capacity to remain on the job longer; and c) passage of the 1978 amendments to the Age Discrimination in Employment Act, raising the mandatory retirement age to 70 years.

Perhaps in the long run as retirement is pushed back, the trends will change. There is some evidence that part-time work by the elderly may be increasing. However, for the next 10 years the prospects are clear. In 1980, compared to 1970, fewer civilian non-institutionalized older Americans, regardless of sex, were in the labor force or unemployed and looking for work. About 1 in 5 older men and 1 in 12 older women were in the labor force in 1980, compared to 1970 when more than 1 in 4 males and almost 1 in 10 females were found to be in the labor force.

These findings on the decline in emloyment and earlier retirement suggests that while people entering the ranks of the elderly in 1980 may be better off economically and therefore more able to retain their private transportation, a diminishing number will be concerned with work-related trips. Increasingly, the transportation network will have to focus on serving the elderly for such purposes as trips to essential human services, visitation to family/friends, church services, shopping and other local activities.

6. Changes in the Income Status

In terms of income and poverty, two distinct economic trends can be discerned vis-

Table 6

Employment Status of the Population, 65 Years and Over, by Sex:
Annual Averages for 1980, 1975, and 1970
(Numbers in thousands. Civilian noninstitutional population)

		Civilian labor force				
	Civilian noninstitutional population	Total	Percent of civilian noninstitutional population	Employed	Total	Percent of civilian labor force
1980						
Male						
65 years and over	9,839	1,877	19.1	1,819	58	3.1
Female						
65 years and over	14,053	1,144	8.1	1,108	36	3.1
1975						
Male						
65 years and over	8,779	1,906	21.7	1,803	103	5.4
Female						
65 years and over	12,506	1,033	8.3	980	52	5.1
1970						
Male						
65 years and over	8,069	2,164	26.8	2,094	71	3.3
Female						
65 years and over	10,907	1,056	9.7	1,023	33	3.1

Source: Adapted from Population Profile of the United States: 1980, Bureau of the Census, Series P-20, No. 363, Table 21, p. 33.

a-vis the elderly in the United States. As indicated earlier, the elderly of the 1980's appear to be in an improved economic position largely because of improvements in their educational status, and hence are presumed able to reap the reward of that gain. As data in Table 7 indicate, in the decade just completed the number of elderly who are below the poverty level diminished. For example, in 1969 4.7 million persons aged 65 years and over or about 1 in 4 of the older population at that time, were classified as below the poverty level. Ten years later, the absolute number of elderly below the poverty level had fallen by just over 1 million — this despite a marked growth in the overall size of the elderly population. Thus in 1979 no more than 1 in 6 older persons were identified as below the poverty line. Black older people are 3.5 times more likely to be poor as compared to whites. While Table 7 does not contain figures on the sex differentials of the elderly poor, the chances are high that females more than males will dominate the group of elderly labeled poor.

Two major economic groups must be considered when discussing the income status of older Americans of the 1980's. The first group consists of the white majority of the aging who are in a better position economically than their 1970 counterparts. In 1969 4.1 million white elderly were below the poverty line; by 1979 the number had declined to 3.8 million. The second group consists of the minorities who account for approximately 1/6 of the aging. This latter group's economic position has not improved since the 1970's, and, in fact, may have worsened by reason of inflation and other inroads on the financial resources of the elderly. For example, the number of black elderly below the poverty line increased from 689,000 in 1969 to 716,000 in 1979.

7. Changes in the Racial Composition

Blacks and other minorities currently have a lower life expectancy compared to whites. However, the white and other race differentials of life expectancy at birth as noted have been shrinking steadily since the turn of the century. For example, Table 8

Table 7

Persons 65 Years and Over Below Poverty Level, by Family Status, Race, and Spanish Origin: 1969 and 1979
(Numbers in thousands. Persons as of March of the following year. Noninstitutional population.)

Characteristics	1979 Total	1979 Below Poverty Level Number	1979 Below Poverty Level Percent of Total	1979 Below Poverty Level Percent Distribution	1969 Total	1969 Below Poverty Level Number	1969 Below Poverty Level Percent of Total	1969 Below Poverty Level Percent Distribution
All Races								
All persons	217,848	25,345	11.6	100.0	199,517	24,147	12.1	100.0
65 years and over	23,743	3,586	15.1	14.1	18,899	4,787	25.3	19.8
In families	191,418	19,394	10.1	76.5	184,891	19,175	10.4	79.4
Householder	58,426	5,320	9.1	21.0	51,588	5,008	9.7	20.7
65 years and over	8,792	797	9.1	3.1	7,208	1,276	17.7	5.3
Unrelated individuals	25,585	5,600	21.9	22.1	14,626	4,972	34.0	20.6
65 years and over	7,656	2,243	29.3	8.8	5,716	2,703	47.3	11.2
White								
All persons	188,048	16,823	8.9	100.0	175,349	16,659	9.5	100.0
65 years and over	21,446	2,840	13.2	16.9	17,370	4,052	23.3	24.3
In families	165,277	12,213	7.4	72.6	162,779	12,623	7.8	75.8
Householder	51,389	3,515	6.8	20.9	46,261	3,575	7.7	21.5
65 years and over	7,916	587	7.4	3.5	6,604	1,036	15.7	6.2
Unrelated individuals	22,095	4,351	19.7	25.9	12,570	4,036	32.1	24.2
65 years and over	6,928	1,837	26.5	10.9	5,173	2,322	44.9	13.9
Black								
All persons	25,385	7,838	30.9	100.0	22,011	7,095	32.2	100.0
65 years and over	2,019	716	35.5	9.1	1,373	689	50.2	9.7
In families	22,133	6,614	29.9	84.4	20,192	6,245	30.9	88.0
Householder	6,042	1,666	27.6	21.3	4,889	1,366	27.9	19.3
65 years and over	789	205	25.9	2.6	547	224	41.0	3.2
Unrelated individuals	3,104	1,143	36.8	14.6	1,819	850	46.7	12.0
65 years and over	667	390	58.5	5.0	485	355	73.2	5.0
Spanish Origin								
All persons	13,244	2,863	21.6	100.0	(NA)	(NA)	(NA)	(NA)
65 years and over	563	147	26.1	5.1	(NA)	(NA)	(NA)	(NA)
In families	12,202	2,555	20.9	89.2	(NA)	(NA)	(NA)	(NA)
Householder	3,100	610	19.7	21.3	(NA)	(NA)	(NA)	(NA)
65 years and over	212	40	19.0	1.4	(NA)	(NA)	(NA)	(NA)
Unrelated individuals	957	273	28.6	9.5	(NA)	(NA)	(NA)	(NA)
65 years and over	141	72	51.1	2.5	(NA)	(NA)	(NA)	(NA)

Source: Adapted from Population Profile of the United States: 1980, Bureau of the Census, Series P-20, No. 363, Table 30, p. 51.

shows that in 1900, life expectancy at birth for a white female was 51 years; the comparable value for other races was 35 years — a differential of about 16 years. By 1977, the differential was reduced to about 4 years. Comparable changes may be noted for the men: a decline from 16 years difference in 1900 to about 5 years in 1977.

Despite the higher infant mortality rates among child-bearing Black and females of other races, their higher fertility rates, compared to whites, accounts for a net increase in the number of Blacks and other races in the elderly population. Although in 1980 almost 90% of all persons aged 65 years and over were white Caucasian, Blacks and others accounted for about 10 percent and the ratio of minority elderly is likely to go up in the decade of the 80's — particularly for Blacks and Spanish speaking persons (Table 9). As one demographer has put it, fertility has been and will continue to be a more important determinant of shift in the proportion of older people than mortality. This observation may apply with equal weight to the racial composition of the elderly population. As white females delay or forego bearing children, and if minorities exhibit a different pattern of child bearing, changes in the racial composition of the elderly of the future appear possible.

8. Geographic Distribution

Population growth of the elderly is distributed unequally among the states. Elderly men and women are found, currently, in great numbers in the Northeast and North Central regions of the country; a shift to the so-called sunbelt states of the South and West has been underway for some time. While the national population increased by 23.5% from 1970 to 1979, the older population in several states grew considerably faster during this same period.[6] The largest percentage increases occured in southern and southwestern states with large number of in-migrants: Nevada (96.6%), Arizona (79.5%), Florida (62.7%), Hawaii (59.9%), and New Mexico (54.8%).

Table 8

Expectation of Life at Selected Ages, by Color and Sex:
Death-registration States, 1900-1902, and United States, 1959-61, 1969-71, and 1977

Life table value and age	Total	WHITE		ALL OTHER	
		Male	Female	Male	Female
Expectation of life:					
At birth					
1977	73.2	70.0	77.7	64.6	73.1
1969-71	70.75	67.94	75.49	60.98	69.05
1959-61	69.89	67.55	74.19	61.48	66.47
1900-1902[a]	49.24	48.23	51.08	32.54	35.04
At age 1 year					
1977	73.2	70.0	77.6	65.2	73.6
1969-71	71.19	68.33	75.66	62.13	70.01
1959-61	70.75	68.34	74.68	63.50	68.10
1900-1902[a]	55.20	54.61	56.39	42.46	43.54
At age 20 years					
1977	54.9	51.9	59.1	47.2	55.2
1969-71	53.00	50.22	57.24	44.37	51.85
1959-61	52.58	50.25	56.29	45.78	50.07
1900-1902[a]	42.79	42.19	43.77	35.11	36.89
At age 65 years					
1977	16.3	13.9	18.4	14.0	17.8
1969-71	15.00	13.02	16.93	12.87	15.99
1959-61	14.39	12.97	15.88	12.84	15.12
1900-1902[a]	11.86	11.51	12.23	10.38	11.38

a. For 1900-1902 figures for "All other male" and "All other female" include only the black population, which comprised 95 percent or more of the "All other" population.

Source: Vital Statistics of the U.S, 1977. Vol 11-Sec 5, Life Tables DHEW Publication No. (PHS)80-1104, page 5-4.

Table 9

Resident Population Aged 65 Years and Over in the United States, by Race and Spanish Origin: April 1, 1980

Age	Total	RACE					Persons of Spanish Origin
		White	Black	American Indian, Eskimo, and Aleut	Asian and Pacific Islander[a]	Other	
65 years and over	25,544,133	22,944,033	2,085,826	74,788	211,834	227,652	708,785
65 to 74 years	15,577,586	13,905,249	1,339,974	48,142	137,765	146,456	457,114
75 to 84 years	7,726,826	6,994,079	586,991	20,794	60,215	64,747	202,841
85 years and over	2,239,721	2,044,705	158,861	5,852	13,854	16,449	48,830
Percent Distribution of the total 65+	89.8	8.1	.3	.8	1.0	2.77	

a. Asian and Pacific Islander groups such as Cambodian, Laotian, and Thai are included in the "other" race category. In sample tabulations, these Asian and Pacific Islander groups will be included in the Asian and Pacific Islander category.

Source: Adapted from Population Profile of the United States: 1980, Bureau of the Census, Series P-20, No. 363, Table 5, p. 10.

Confirmation of the rapid growth of the elderly population, particularly in the sunbelt states, is provided by Tables 10 and 11. Table 10 shows the rapid growth in the Sunbelt elderly population (65+) between 1970-78 for states with increases of 25 percent or more. Table 11 shows the percentage of elderly in each state in 1980. Several of the southern states, such as Georgia, Texas, Alabama, and Tennessee are experiencing relatively high growth rates. This may be due to not only to their climate, but also to the comparatively low cost of living for elderly in these states. There is also some evidence of a flow of Blacks back to the south, unquestionably associated with the economic and social changes of the last two decades.

Some of the migratory patterns of the elderly are shown by data on types of moves over the period 1975-79. These data are summarized in Table 12.

Among the non-institutionalized elderly, some 18% of those 65-74 years and 16% of those 75 years and over moved their place of residence between the years 1975-1979. About one-fifth moved to another state. The states of Florida, California, and Arizona attracted more than half of the movers who migrated to another state, and about one-fourth of these movers shifted to Florida.

One obvious consequence of these shifts by the elderly to the sunbelt states is that the frostbelt states tend to lose the more affluent elderly who have the resources to move. This may tend to leave behind a population of elderly who are poorer, and less able to support their transportation and other social needs. At the same time, the sunbelt states should exhibit a greater demand for transportation by elderly people in their more advanced years, particularly as their capacity to maintain personal transportation yields to the onset of disabilities in the later years.

Table 10

Estimated Percentage Increase for Population 65 or Older
By States for Period 1970-1978

State	Number (000s)	Percent of Total Pop. in State, 1978	Percent Increase 1970-1978
A. Increases of 30 Percent or More			
Nevada	55	8.4	79.4
Arizona	269	11.4	66.7
Florida	1510	17.6	53.2
Hawaii	66	7.4	50.8
New Mexico	104	8.5	47.4
Alaska	10	2.5	46.7
South Carolina	258	8.8	35.8
North Carolina	550	9.9	33.6
Utah	102	7.8	32.3
B. Increases from 25 to 30 Percent			
Idaho	87	9.9	29.5
Georgia	473	9.3	29.3
Texas	1264	9.7	28.0
Virginia	468	9.1	27.4
Oregon	285	11.7	26.5
Delaware	55	9.5	26.2
Alabama	408	10.9	25.9
California	2243	10.1	25.1
Tennessee	478	11.0	25.1

Source: Adapted from tables in Facts about Older Americans 1976, 1977, 1978, and 1979, U.S. DHEW, Office of Human Development Services, DHEW Pub. No. (OHD) 77-20006, 78-20006, 79-20006 and HHS Pub. No. (80-20006).

Table 11

U.S. Population 65 and Over by Percent and Number as of 1980

United States	11.3	25,544,133
State	Percent	Number
Florida	17.3	1,684,972
Arkansas	13.7	312,331
Iowa	13.3	387,498
Missouri	13.2	648,289
South Dakota	13.2	91,014
Nebraska	13.1	205,576
Kansas	13.0	306,179
Pennsylvania	12.9	1,531,107
Massachusetts	12.7	726,531
Maine	12.5	140,918
Oklahoma	12.4	376,042
New York	12.3	2,160,558
North Dakota	12.3	80,447
West Virginia	12.2	237,868
Wisconsin	12.0	564,228
Minnesota	11.8	479,746
New Jersey	11.7	859,682
Connecticut	11.7	364,864
Oregon	11.5	303,284
District of Columbia	11.6	74,202
Mississippi	11.5	289,357
Vermont	11.4	58,166
Tennessee	11.3	517,524
Alabama	11.3	439,938
Arizona	11.3	306,971
Kentucky	11.2	409,853
New Hampshire	11.2	102,967
Illinois	11.0	1,261,160
Ohio	10.8	1,169,437
Indiana	10.7	585,425
Montana	10.7	84,559
Washington	10.4	431,417
North Carolina	10.3	602,273
California	10.2	2,414,755
Delaware	10.0	59,284
Michigan	9.9	912,321
New Mexico	9.9	115,690
Idaho	9.9	93,680
Texas	9.6	1,371,040
Louisiana	9.6	403,939
Georgia	9.5	516,808
Virginia	9.4	505,204
Maryland	9.4	395,594
South Carolina	9.2	287,287
Colorado	8.6	247,261
Nevada	8.2	65,767
Hawaii	7.9	76,230
Wyoming	7.9	37,218
Utah	7.5	109,220
Alaska	2.9	11,530

Source: U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Supplementary Report (PC80-S1-1) May 1981.

Table 12

Mobility of Population 65 Years or Over
1975-1979

Mobility status and type of move	Age 64-74	Age 75 and over
Total (in 1,000s)	14,767	8,408
Percent	100.0	100.0
Movers	18.1	15.9
Nonmovers	81.9	84.1
	Percent distribution by type of move[a]	
Total movers (in 1,000s)	2,614	1,315
Percent	100.0	100.0
Same county	55.7	58.2
Different county in same state	21.5	21.5
Different state, total	22.8	20.3
Contiguous state	6.4	6.1
Noncontiguous state	15.0	14.2

a. Excludes moves from abroad.
Source: Population Bulletin, America's Elderly in the 1980's, publication of the Population Reference Bureau, Inc., Vol. 35, No. 4, Table 6, p. 14.

III. TRANSPORTATION IMPLICATIONS OF DEMOGRAPHIC, ECONOMIC AND SOCIAL CHANGES AMONG OLDER AMERICANS

As is illustrated by the demographic data in Section II, the elderly of the 1980's and 1990's will differ appreciably from their past counterparts in many ways. While the full implications of these changes have yet to fully unfold, their consequences for planning and programming transportation for the elderly are identifiable. These changes point to the major policy areas that will need to be considered by state and local jurisdictions over the next decade.

A. Changes in Age Structure of the Aging Population

Unquestionably, the most significant change that has already occurred and will continue in the decade of the 80's and 90's is an increasing number of older Americans. The rising proportion of the population over 75, particularly women, should have profound implications for meeting the requirements of this population in terms of their health and related needs. However, in the immediate future the following transportation aspects will have to be taken into account:

- **The demands of the elderly for specialized transportation will increase in the 1980's.** This is apparent from the sheer rise in the numbers of older people, and in the expected increased costs of fuel, the increase in costs of purchasing and owning an automobile, and an established and growing demand for mobility among the elderly.

- **Most of the riders for specialized transportation services are likely to be female, of advanced age, and drawn from minority groups.** The economic position of about one-sixth of the aging population, approximately 5 million persons, will constitute the core group who are likely to be transportation disadvantaged, in the full sense of that term, and candidates for specialized transportation services.

- **Specialized transportation programs will need to consider serving an older, probably less physically able population than heretofore.** The marked growth of the 85 years and older population will place increasing demands on the specialized transportation network. That network will need to take into account a group of riders who will have some difficulty in walking yet want to maintain a measure of mobility and independence.

- **Work oriented trips on the part of the elderly will be on the decrease, both for specialized transportation programs and mass transportation.** With diminishing numbers of older persons of both sexes in the labor force, a larger proportion of

older people will be seeking trips to more varied destinations other than employment locations.

- **Car ownership will be maintained by a high proportion of older people, but they will make frequent to occasional use of specialized transportation as an alternative for selected trips.** Given the alternative life styles of older people of the 1980's and the high costs of fuel, owning and operating an automobile, and parking costs in urban areas, older people will make selective use of specialized transportation for some trips. They probably will reserve the automobile for hard to reach locations and places to which specialized transportation is unwieldy or unavailable.

- **There will be a high incidence of licensed drivers among the elderly in the future, particularly among women.** The elderly population 65 or older in prior years included women who had never learned to drive and were not licensed drivers. They were from a generation where driving was not a tradition, and they were accustomed to having someone drive them. They were accustomed to using public transportation. Though the loss of mobility associated with aging and increasing dependence on others was a threat, it was not as serious as it will be psychologically and in terms of real mobility for the elderly of the 80's and 90's. The elderly of the next two decades will come from a population who have always driven. Since World War II, the proportion of male and female drivers is roughly the same, and a large part of the adult population of the late 40's and 50's will be in the elderly population of the 1980's and 90's. For those unable to drive for physical or economic reasons, their demands in the future are likely to be for a substitute for the automobile. However, conventional public transit may not satisfy their needs as well as personalized dial-a-ride or specialized systems.

- **Accessibility is likely to be an important issue for the elderly, given the expected increse in mobility limitations.** Given the high proportion of women who have driven previously, the high incidence of frail elderly, and the greater emphasis on group living and home-delivered services to maintain independence as long as possible, there is likely to be some preference for a combination of personalized specialized accessibility in contrast to lift-equipped or related conventional transit accessibility. Given the driver licensing characteristics previously described, the emphasis on "auto-like" transportation will be especially dominant among the women who in turn will dominate the age group in terms of numbers. This may also result in increasing conflict between the elderly disabled and the younger disabled for whom "mainstreaming" is an important issue.

- **It seems quite evident that for the rural elderly over the remainder of the decade of the 1980s and into the 90's, the need for rural transportation is likely to continue and at a higher level than their urban counterparts.** Though rural elderly have participated in the migration to the Sunbelt states, it has not been at the same level or rate as the urban elderly. One consequence is that the rural elderly who remain behind are often the poorest and most vulnerable members of their communities. Their needs will be compounded by lower incomes, lower available public budgets, a more dispersed population, difficulties associated with trip making and by the lack of a developed state or local network even vaguely comparable to urban areas.

B. Changes in Educational Level

As noted earlier, older Americans in the decade betwen 1970 and 1980 reflected a

marked improvement in their educational levels. That trend, if continued over the next decade, carries considerable significance for transportation:

- **To the extent that education and income are correlated, the elderly of the 80's and 90's will be able to better afford, own and operate automobiles, and automobile ownership and usage is likely to be higher for the elderly than in the past.** To the extent that this is not affected adversely by inroads from inflation , the elderly in the next two decades are likely to make fewer demands for specialized or transit services. Obviously, if major urban policy shifts with respect to transit use are implemented over the decades, due to energy or environmental issues, this projected increased auto use by the elderly would not materialize.

- **Vehicles are likely to be operated for longer periods and physical limitations will be less significant than over the past two decades.** Although it is true that there is likely to be a larger proportion of population 75 years and over, given the substantial improvements in their health condition, the evidence makes it quite clear that they are likely to be healthier and stronger — particularly the age group 65-74.

- **To the extent that rural areas reflect lower educational attainment and income for the rural elderly, their position will worsen vis-a-vis the urban elderly.** Although rural public transportation programs have been developed, these funds have been largely used for funding transportation projects already operating rather than for developing statewide or interconnected rural systems. Given that framework, unless changes occur, the transportation conditions in rural areas, are likely to become relatively worse than those in urban areas.

C. Employment

Employment data described earlier indicates that over the decade from 1970 to 1980, the share of elderly aged 65 years or over in the labor force declined — for males from 26.8 percent in 1970 to 19.1 percent in 1980. Though a substantially smaller rate of participation and decline in that rate is reflected in the data for women, their decline was also registered. These declining labor participation rates, if continued, will have quite specific transportation impacts.

However, there may be forces operating which may alter the pattern of what has been called by one observer "a linear life plan" — that is, a straight line progression from extended schooling during youth, through some 40 consecutive years of work and/or homemaking in middle life, and finally to retirement in old age. The present projections for early retirement are extrapolations of past trends and there are a number of factors that may cause these trends to change. Among the possible forces for change that have

been suggested are included: (1) mandatory retirement prohibited before age 70; (2) liberalized Social Security retirement tests that would permit greater earnings; (3) increased efforts to create a climate favorable to the employability of older persons; (4) wider use of a variety of techniques and practices that would enable a greater number of older persons to be gainfully employed (i.e., training, retraining, etc.); (5) more flexible working arrangements (i.e., part-time, longer vacations, etc.); and (6) continued trends in the increased cost of living. Most of these trends are already present or underway in American society.

There are also a number of other demographic, economic and social factors that could contribute to a turn around, as older people increasingly choose work over retirment. For example, the added cost of longer retirement periods, encouraged by present trends toward early retirement at some income levels may also become a growing source of social tension, and require return to work in the face of inflation. If sharply increased taxes are necessary to maintain existing social benefits in the face of budgetary constraints, **pressures may grow to reduce benefits or increase the age of retirement.**

In addition, the decline of physical demands associated with many kinds of jobs may encourage later retirement. There is already some evidence that part-time work represents a major source of work activity among older workers 65 years or older. Although a good part of this was voluntary activities, there are initial indications that this part-time work could become an important component of employment and income for older people. The transportation implications in this case are quite different than for "early retirement." An enumeration of some of the major implications for both early and later retirement follow.

- **If early retirement trends continue, the elderly in the 1980's and 90's are likely to generate trip patterns quite similar to those of the previous decade.** There will be decreasing concern for work trips. Increasingly, the network of private and public transit and paratransit systems will have to focus on serving the elderly for their personal trips related to recreation, shopping, personal services, access to agencies and activity centers, trips to visit friends and family, trips to church, and other

social activities. These are largely the trip purposes being served most frequently on present systems serving the elderly — be it transit, or specialized paratransit services.

- **The intercity transportation needs of the elderly are likely to increase significantly as better health and higher incomes generate more desire for travel for recreation and/or to visit family and friends.** This pattern is already discernable, and suggests that greater concern will have to be focussed on these intercity needs. Since many of the rural elderly move their residences only short distances in retirement, the need for better local, regional and intrastate bus services appears likely to be more important over the next decade or so.

If retirement is postponed or delayed, the following transportation implications emerge:

- **Jobs held by the elderly may have locational characteristics somewhat different than the labor force as a whole.** For example, to the extent that elderly work more part-time, especially in service and domestic jobs, their work trips will involve access to locations not well served by transit and, typically, require a "reverse commute" trip — i.e., service in a direction counter to the main flow of users and frequently receiving poor service.

- **To the extent that jobs for the elderly are more dispersed than those of the non-elderly, they will have greater difficulties finding ways to not only go to work but also in seeking the work.** Interviews become two- and three-hour trips that would discourage even the most hearty and enthusiastic.

- **Part-time work represents a major source of work activity among older workers — 65 years or older. Studies related to part-time work indicate that about half of the employed persons in the age category 65 years or older worked part-time in 1975 —** 46 percent of the men and 56 percent of the women. The same study noted that nine out of ten older men and women indicated that their part-time status was voluntary.

- **There is a significant concentration of jobs by the elderly in the services, sales, and clerical sectors, especially among women.** In 1973, about 65 percent of the women and 30 percent of the employed persons 65 or older were in these occupational groups.

- **Data suggests that the service, sales, and clerical occupations tend to be more dispersed in their locations than other occupational groups** (i.e., more dispersed origins and destinations). Many service and sales jobs are not well served by CBD-oriented public transportation systems. In addition, the work hours of service jobs are more diffused, so the lack of good off-peak service makes public transportation even more difficult to use — especially for women who are particularly dependent on public transportation (fewer are licensed drivers). **The three factors of job location dispersion, off-peak hour working times, and the low incidence of driver's licenses for women, in combination undoubtedly result in greater transportation difficulties for many of the working elderly.** In the future the latter condition is likely to change; increased numbers of women are learning to drive, and the difference between men and women is expected to narrow sharply with regard to access to a driver's license.

- In connection with driver licensing, **a review of driver licensing and renewal procedures in the United States in 1975 indicated that there is a substantial degree of non-statutory discretion in the administrative practices and procedures connected with the processes,** especially where it relates to the driving examiner. **There also appears to be evidence of a lag between driver licensing and renewal procedures and knowledge about the driving performance and safety record of elderly drivers.**

- **There is little doubt that in terms of searching for and access to work, the private automobile is the most important form of transportation presently being used by working elderly.** Unless major policy changes occur at the local level in land-use patterns and/or in the role of the automobile, the pattern of dependency on the automobile is likely to persist over a relatively long period of time.

- **Given the long term nature and difficulty in changing land use and the location of employment centers and/or the pattens of use of the private automobile, improved transportation to and from work places for older workers will require a form of transport that is a variant of the automobile.** This suggests that the development of "paratransit" systems is important for improving transport for future working older Americans.

- **Since large urban areas tend to have better transportation facilities than small urban areas, in most small and medium-sized cities the working elderly are more vulnerable to the lack of good public transportation.** Furthermore, the evidence indicates that the rural working elderly (as in the case of other rural elderly) are doubly **vulnerable:** there is frequently no public transportation of any kind available, **and** employment opportunities are substantially fewer and more widely dispersed.

- **Given the importance of driving and the automobile to working older Americans (and older Americans generally), it is not surprising that the loss of the driver's license is considered to be synonymous with a major loss of independence.** If the working careers of older people are to be promoted over longer periods, some effort must be made to assure that driver licensing and license renewal procedures are based upon proven relationships between age and driving ability. Though older drivers tend to drive somewhat differently than younger drivers, the evidence does not indicate that they are less safe or are involved in a larger number of accidents. There appears to be a great deal of discretion left to individual driver examination driver examiners, and study is needed to determine whether, in fact, the procedures discriminate at the examiner level.

D. The Shift to Suburban Residential Locations

In general, the population of elderly has been becoming increasingly suburbanized and the decade of 1970-80 was no exception. The elderly have been moving out of central areas in the decades since the 30's, and the pattern was sustained over the last decade. In 1970 about 65 percent of the elderly 65 years or more lived in suburban or nonmetro residential locations. By 1979, that share had increased to about 70 percent. This suggests an increasing number of pockets of elderly in suburban locations not well

served by public transit. If this suburbanization continues, the following transportation needs and issues will need to be considered:

- With suburban locations generally less well-served by transit than central city locations, the elderly will have greater need for transit systems that are circumferential in nature. These contrast with the radially oriented systems focussed on central business districts and work locations found in many large cities today.

- If the elderly's suburban trips are focussed largely on social, recreational, personal and service agency needs, there will be fewer directed to central areas and more towards local neighborhood and regional facilities. This suggests that future planning considerations must take into account this increasing need for neighborhood and localized transportation services.

- Since conventional transit services do not easily (cost efficiently) serve the trip patterns of localized and neighborhood trips and circumferential travel to more dispersed (non-corridor) trip ends, this will further intensify the pressure for specialized paratransit services.

- Though it is difficult to fully assess the income potential of the future elderly in terms of using private transportation services, current pricing practices and resistance to shared-riding in many locations keeps the cost of private services too high for many elderly. The development of more universal shared ride systems and pricing, shared vehicle renting and leasing among elderly, especially in congregate housing, and other forms of shared ownership and use are likely to represent important options for the elderly and opportunities for the private sector.

- Because the elderly's suburban residential locations are lower in density and their destinations more dispersed, the suburban elderly are likely to try and keep using their personal autos as long as possible. Under the circumstances, the issue of fair and adequate driver license renewal procedures, described earlier, will become an important issue over the next decade and into the 1990s.

IV. MAJOR TRANSPORTATION POLICY ISSUES

This section considers the more general forces that have significance for state and local planning of transportation for older Americans. These are forces that are, to a considerable extent, more subject to national policies and economic conditions. However, not all aspects of the factors discussed in this section are simple functions of national decisions. Some, as will be seen, can be dealt with at the local and state levels, although the federal government plays an important policy role in helping to control and/or deal with these factors as they relate to transportation. Three of the issues are particularly affected by national considerations: inflation, energy and budget constraints. Several are more directly related to the implications of national funding constraints on state and local policy and planning efforts: local roles, program funding structure, greater coordination of effort and the expanded role for volunteers and private sector participation.

A. Inflation

The impact of inflation on the economy is well understood, although efforts at strong and sustained monetary controls are of somewhat more recent vintage. Setting aside for the moment the issue of the economic consequences associated with efforts to control inflation, the decade of the 1970's saw significant consumer price increases over the previous decades. In annual average terms, consumer prices increased at a rate of about 1 percent per year over the first half of the 1960's, and at a rate of about 5 percent per year in the last half of that decade. During the 1970's, consumer prices increased by an average rate of about 7 percent per year over the period 1970-1975, and by the second half of the decade the annual average rate had increased to over 10 percent, and was rising rapidly. By the time the decade of the 80's made its appearance, double digit consumer price increases were the rule rather than the exception.

By mid 1982 and early into 1983, efforts to get inflation under control were beginning to produce significant results. By early 1983 the Consumer Price Index was

showing rates of increase well under 10 percent. However, the lower inflation rates of 1982 were accompanied by substantially reduced levels of industrial activity and higher levels of unemployment. Though all economists by no means agree, generally it is accepted that "squeezing out inflation" requires some sacrifice, that is measured in unemployment. Basically, differences in opinion are focussed on two key issues: (1) How much deflationary pressure (e.g., unemployment) is acceptable by the public to achieve reductions in inflation? and, (2) Can price levels be held down while at the same time achieving reasonable levels of growth and employment? The answers to these questions are not simple, and are the basis of the controversy among economists at the technical and professional levels, and between policy makers at the political level.

No clear answer has emerged to these questions. Though inflation, at the time of writing, appears to be under control, the extent to which the associated unemployment has been tolerated has yet to be tested beyond the public opinion polls.

The second issue still remains. Governmental planners debate the ways recovery, which in early 1983 has begun to show signs of life, might be moved forward over a long period without accompanying price increases. The American economy is also undergoing some of the most profound structural changes in its history, and these cloud the pattern of economists' forecasts and expectations for the future. Over the next decade, it may well be that inflationary rates above 10 percent will be avoided. But it is at this juncture by no means a certainty. If the economy grows rapidly, and major new investments (along with associated increases in savings) are made to provide for the future competitive base for the U.S. economy, significant inflationary pressures will be present over the decade. Under these circumstances, holding price increases in the range of 8-10 percent per year might not only be considered reasonable, but also a good achievement.

In that context, state and local jurisdictions may have to to hedge their bets planning and programming their transportation services based on conservative assumptions about anticipated inflation rates. Trend rates of 8-10 percent would not be unreasonable. If actual rates fell below that level, it would have the effect of having

left some margin to adjust budgets downward — a substantially more pleasant process than the alternative.

It is well to recall that inflation has the net effect of increasing costs in both fiscal (monetary) and real terms. With annual price increases of 10 percent or higher, costs not only rise rapidly in absolute terms but it also becomes more and more difficult to maintain the quantity and quality of existing services. Inflation has an impact on all forms of transportation: transit, paratransit and the private auto. It affects urban and rural as well as regional and intercity services. If inflation rates of the late 1970's and very early 1980's reappear, they would result in profoundly damaging impacts on transportation services for the elderly.

B. Energy

The Seventies, as regards to energy, was characterized by scarcity and price increases, which then resulted in sharp increases in the costs of transportation. Energy cost increases were an important contributor to the rising cost of transportation over the decade. For example, the special Consumer Price Index (CPI) on energy increased from 107.0 in 1970 (1967 = 100) to 275.9 in 1979 and 381.7 in 1980 — an increase of about 3.6 times. The comparable increase in the Consumer Price Index as a whole for the period 1970-1980 was about 2.2 times (from 116.3 to 246.8). Not surprisingly, transportation costs increased at rates comparable to the CPI: from 111.1 to 249.2 from 1970 to 1980 (about 2.2 times) for private transportation, and from 128.5 to 251.6 (2.0 times) over the same period for public transportation.

As in the case of inflation, all forms of transportation were impacted by these changes in energy availability in the form of sharply increased costs and the scarcity of fuel for transportation services. A wide range of activities have been implemented to conserve energy, and these successful efforts have led to a decline in fuel costs and increased availability of fuel and related energy sources. The national policies on energy utilization and conservation will have important consequences with regard to the cost

and availability of fuel for transportation in the years ahead. Even though fuel supplies are presently plentiful and prices have stabilized and even declined, over the next decade new shortage situations may occur — the scope and intensity depending upon national policy and decisions. Even at the state and local levels, there are a variety of programs that can be undertaken for conserving energy in order to assure availability of energy at reasonable prices for older persons or the transportation services developed to serve them.

In terms of the allocation of fuel in the energy crisis of the 70's, priority was given to those transportation services that served the elderly. In the decade of the 80's, the same energy impacts may continue, though not with any clearly predictable pattern. This uncertainty suggests that careful planning, programming and priority setting on energy issues are particularly important in the provision of transportation to the elderly in both the public and private sectors.

C. Funding Limitations and Related Considerations

If one accepts the assumptions that the next decade is likely to be characterized by 1) strong efforts at promoting economic growth within acceptable levels of inflation; 2) reductions in current federal deficits as a major policy target, with any growth rate of the deficit limited to real economic growth, and 3) somewhat unpredictable energy shortages on some scale, then one must also accept that the federal funding constraints that have marked the period since 1979 will persist throughout the 1980's.

Closer attention is likely to be given to issues of cost-effectiveness and the links between the federal budget and national objectives and policies. In a recent report on public works infrastructure and policy considerations for the 1980's, the Congressional Budget Office (CBO) noted:

> Adjustment in federal policies to improve the cost effectiveness and targeting of spending could permit transit needs to be met within current federal spending, and might even allow a reduction in the penny of the new tax on motor fuel that goes to transit. Such changes could include lowering the federal matching ratio, revising the distribution formula to favor cities

that rely most heavily on transit, disbursing federal monies in transit block grants with few federal stipulations as to their use, and permitting experimentation with nontraditional modes.[7]

The strategies and policies posited by the CBO are not new, and represent directions already initiated by both Republican and Democratic Congresses and presidents. In the context of transportation for the elderly, the suggestion by the CBO that nontraditional transportation modes be developed and encouraged is a step in the right direction. The same CBO report also comments that ". . . mass transit's benefits to disadvantaged groups, such as the poor, elderly, and the disabled, are often taken for granted. Though this assumption appears valid for highly specialized public transportation services, such as 'dial-a-ride' vans, most forms of mass transit serve predominantly higher-income persons of working age."[8]

The scarcity of nationally budgeted resources implies that the state and local jurisdictions will have to consider several key issues and strategies:

- Advance planning and priority setting is even more important than when budgets are more plentiful. Greater efforts will be needed by the state and local jurisdictions on the planning and prioritization of both system design and setting service priorities. The trend towards block grant programs at lower absolute levels reinforces this need.

- Block grants imply a broader range of roles for state and local jurisdictions. The relationship and links between individual state and local governments will need to be better defined, if cooperative fiscal efforts by these jurisdictions are to come about.

- The remainder of the decade of the Eighties will require greater levels of local and state fiscal support if transportation services are to be maintained at current levels. Some services may warrant reduction or discontinuance; these are issues that will need to be faced as part of the priority setting process noted above. It will also be essential to measure fiscal capacity and innovative sources of fiscal support at the state and local levels. Some states have already taken initial steps in this direction.

- For elderly human service agencies, Section 18 and Section 16(b)(2) of the UMTA transportation program are important sources of funding. However, funding by human service agencies for transportation for the elderly (and other clients) has already become somewhat more constrained, and is likely to be worse over the decade for the reasons noted. Coordination of these transportation services is not easy or without its costs. Nevertheless, planning and service coordination will be more and more important, especially if transportation services by agencies being funded by state and local sources are to be effectively used to serve the elderly. Integration of these transportation services needs to consider the full variety of transportation services such as dial-a-ride, cooperative ownership and vehicle use,

and pooling, tailored to the specific needs of clients and run on a reasonably cost effective basis.

- Studies of elderly oriented transportation services, especially specialized services, indicates a considerable use of volunteers and contracting with the private sector. Interest in these two areas has intensified over the last several years. Both are not without their problems and difficulties. They are not a panacea for providing transportation to the elderly or for solving all the related problems. However, they do represent a resource that will be tapped more intensively than in the past, and the stimulus of constrained budgets at the state and local levels should encourage greater exploration and efforts in these directions.

V. STATE AND LOCAL POLICY, PLANNING AND PROGRAM ISSUES FOR THE 1980s: SPECIFIC ISSUE AREAS

This Section explores in somewhat greater detail specific issues in planning and programming transportation services for older Americans. Some of these issues have been drawn from the demographic data described earlier, as well as from recent studies of the transportation systems serving the elderly. However, the primary structure and content of this section is taken from an October 1980 Mini-White House Conference on Transportation for the Aging.[9] These issues and comments represent the views of a knowledgeable group familiar with specialized transportation, as voiced in a series of 16 workshops at that conference.

1. Funding

The workshop on funding and subsidies explored the issues relating to funding transportation services for older Americans. There was general agreement that a major problem was the difficulty in obtaining funds and the uncertainty from budget period to budget period. The workshop participants felt that one means for dealing with the funding problem was through a more coordinated use of funds, but that coordinated funding was hampered by the restrictions associated with each of the funding sources. It was observed that the most important sources of funds for transportation projects serving the elderly are the Urban Mass Transportation Act, the Older Americans Act, relevant sections of the Social Security Act, and to some extent in rural areas the Surface Transportation Act. Each has different requirements and constraints on how their funds could be used. Under these conditions, the workshop felt that greater local flexibility in the use of funds would help, with the state taking a more active role on helping integrate this effort. A number of other important issues were identified that are especially relevant at the state and local levels.

- In planning services over a decade of expected budget constraints, transportation brokerage was considered to be an important strategy for more cost-effective use of funds. It not only opened the possibility of shared budgets and services, but also

more assured project continuity. It was a strategy that the workshop participants felt could be more vigorously pursued by state and local governments in coordination with one another.

- It was strongly expressed that local problems are best understood at the local level. If budgets are constrained and priority setting essential, then greater flexibility in the use of funds is also essential; federal flexibility vis a vis the state and local jurisdictions and state flexibility vis-a-vis its own localities. This was felt to be an important strategy whatever the source of funds.

- In connection with a policy of greater local flexibility in the use of funds, state programs could be designed to permit greater scope of pooling and cooperative efforts among existing or proposed transportation services. This is especially relevant for human service categorical programs.

- The use of Section 16(b)(2) funds probably needs somewhat greater monitoring than in the past in order to assure more consistent and relevant levels of service. States might implement such monitoring systems in conjunction with some specified service standards.

2. Coordination

Coordination of transportation services is an important issue, and was raised as a means of providing for more effective use of resources and improved services where resources are scarce (especially in rural areas). While coordination was viewed by the workshop as one way of stretching limited dollars, it was not viewed as a substitute for the need to find new ways to solve funding problems. In general, most present transportation projects experience insufficient capacity to meet the demands placed on them for providing services, and the following options and approaches were identified:

- The approaches to coordination now in effect in California, Florida, Iowa, and other states where statewide coordination is mandated should be reviewed as an important source of innovative models.

- Volunteer activities were considered to be an essential ingredient for exapanding coordination, and states and local jurisdictions should consider developing more active programs for encouraging volunteerism. A range of incentives would need to be developed that could include greater use of the elderly for driving, reimbursement for out-of-pocket costs, local and state tax, deductions, etc. Though the issue of allowable deductions is a national matter, support by the states and local governments for such a deduction was felt to be a reasonable way to encourage a greater number of volunteers at the local level. It was also noted that in using volunteers, more training would probably be needed — not only for the volunteers, but for project management as well in the use of volunteers. The experience and materials of the Red Cross and the RSVP programs were considered to be an excellent source of information and practical models.

- More technical assistance was needed at the local level, and states could consider developing a statewide network of volunteers or reduced payment using honorariums. Such a system could be patterned after RSVP which uses retirees with specific skill areas as the basis for providing help at the local level at no or low costs.

- Because of their importance to the elderly and their transportation skills, it was suggested that public transit agencies be encouraged to serve as an agent for local coordination, possible in conjunction with an incentive program.

3. Accessibility

Accessibility raises a range of philosophic, technical and financial issues related to public transit and special service systems serving older Americans. Important questions relating to accessibility have emerged from U.S. Department of Transportation interim regulations promulgated relative to Section 504 of the Rehabilitation Act of 1973, not the least of which is the cost effectiveness of providing fully accessible public transit. In addition to cost, the workshop raised the issue of social responsibility for providing transportation services; that is, what is the extent of society's responsibility for providing a range of transportation options for older Americans in order that they may avail themselves of the services and amenities available to others. The workshop also raised the issue of who was responsible for providing transportation services within government: was it primarily the responsibility of the public transportation agency or a dual resonsibility of public transit and social service agencies? In this context a number of issues and options of interest to the state and local governments were identified:

- Transit operators and social service agencies typically share some responsibility for transportation whether for door-to-bus stop or door-to-door services. States and local jurisdictions need to consider this duality of responsibility in their planning.

- Transportation, either in support of home delivered services or in the form of assisted trips, can be provided to prevent or delay premature institutionalization of older persons. Furthermore, the institutionalized elderly often have their mobility needs ignored. Trips may need to be provided to the elderly confined to institutions on the basis of the therapeutic value alone.

- Although in many states airports are required to be accessible, limousine services often are not. Public airports may therefore need to develop some form of accessible service available as an option for disabled elderly and other disabled.

- User amenities for the blind, the hard of hearing, and the mentally impaired elderly should be considered for all transportation facilities — existing or new.

- In the context of accessibility, elderly groups and individuals should be directly involved in the planning and implementation of transit projects at the local level.

4. Rural and Small Towns

The workshop felt that rural elderly have special transportation problems. The isolation of rural areas, along with the more limited availability of resources and uncertainy institutional support, makes the transportation problems of rural elderly more acute compared to their counterparts in urban areas. Rural communities and facilities and services are often more widely dispersed than urban areas. Roads are sometimes narrow and poorly paved, further hampering travel for the rural elderly. A lack of knowledge about existing transportation services also seems to persist in rural areas. Further, the rising cost of operating vehicles and inadequate reimbursement have contributed to the decline in numbers of volunteers willing to transport the rural elderly. The workshop also felt that the ethic of rugged individualism among many of the rural elderly influences their perception of transportation as an acceptance of "welfare." The following issues of interest at the local and state levels emerged:

- The development of rural transportation systems should be given a high priority by state departments of transportation, but rural transportation services should be based upon plans developed by local areas.

- Planning a rural transportation service for the elderly should be a part of a broader framework for the economic development of a rural area on a county or multi-county basis.

- A rural transportation plan for older persons should be the basis for implementing a large plan for the development of a rural transportation system for the general public.

- Recent findings and studies on billing and accounting should help state units on transportation and on aging to streamline reporting requirements for rural transportation providers.

- Members of the aging network advocating the development of rural transportation services in each state should take a leading role in promoting coordination of transportation services for rural elderly at the local level.

- The private sector should be involved in the development of rural transportation plans at the state and local levels. In this context, older workers could be placed in jobs related to the delivery of transportation services to rural elderly.

5. Minorities

The workshop on minorities considered the special problems of three groups: minorities in urban and rural areas and on Indian reservations. They noted that as compared to non-minority elderly, minority aging persons:

1) were more economically disadvantaged;

2) had to work over a longer period of their life, and a larger share were still working after 65;

3) lived in high crime areas and security problems with transit were more acute;

4) had more health-related disabilities inhibiting their normal walking;

5) had more difficulty in understanding or speaking English;

6) were less familiar with what transportation services were available, and

7) those living on reservations had the additional difficulty in making connection with transportation services outside the reservation.

In the context of these special problems, the following issues of potential interest to the states and local jurisdictions were identified:

- Given the increased suburbanization of homesites for the elderly expected over the next decade, and increased circuity of trips, planning for transit bus routes and schedules will need to consider more carefully the need for effective transfers between connecting routes.

- To the extent that urban minority elderly are and will continue to be concentrated in the inner city areas, transit operations and neighborhood groups will need to take measures to assure their safety and security. This was identified as a particularly important issue by elderly workshop participants. As the minority elderly become more suburbanized, the problem will become more important since bus stops and stations will be more remote and isolated.

- Because the incomes of the minority elderly are among the lowest of all elderly, half-fares for elderly is more important for them than for other elderly groups in the population. Over the next decade, with constrained budgets, consideration might be given by local and state transportation agencies to the fesibility of developing a sliding scale of lower fares to cover all hours of service for inter-city or neighborhood services.

- With growing suburbanization, and increasing participation in that trend by urban minority elderly, there will be a greater need for more neighborhood services. State and local transportation agencies will need to give serious consideration to this issue in the context of transit systems largely oriented toward regional demands generatd by work trips.

- For those transit properties serving large numbers of Hispanic users, a driver sensitivity program can teach drivers to communicate with non-English speaking elderly. Bilingual drivers and staff are especially valuable to transportation systems serving non-English speaking populations. In addition, general information on routes, schedules and other marketing material needs to be available in languages appropriate to local ethnic populations.

- To the extent that the number of special services for the elderly are expected to increase in numbers and scope over the next decade, state and local planning of these services should assure they interface as well as possible with conventional transit routes.

The Rural Minority Elderly

- Transit providers and organized interest groups in rural areas over the decade may reach out to the minority elderly in their regions. In that context, a telephone referral service for transportation purposes could be established on a county or multi-county basis.

- As more rural elderly retire into the towns and villages, some rural minority elderly may become so dispersed and isolated over the next decade that the only cost-effective way to provide social and health services may be through direct home delivery. States and local service providers, transportation and otherwise, need to study the respective costs of these two approaches and at what level of demand there is a cost effectiveness crossover between each.

The Elderly Native Americans

- In planning and developing services for the reservations, systems should be interfaced with mainline systems outside the reservation to the maximum extent feasible.

- In order to make transportation services to and from reservations work effectively, they need to be managed where possible by the tribe populating the reservation.

6. Future Service Planning

The workshop on future service planning considered the variety of demographic, social and economic changes anticipated for the elderly in the eighties. The changes identified had important implications for future transportation service planning and included (as described earlier): an increased number of frail elderly and the number of people 75 years or older; an increasing share of elderly in suburban locations; increased

part-time employment; an increase in the number of auto drivers aged 75 years and over and a much wider incidence of older women drivers; continued migration of elderly to the so-called Sunbelt states; increase in the educational level of the elderly; and some redevelopment of the traditional central business districts in many cities. In connection with these changes, the workshop participants identified a number of options for consideration by state and local governments:

General Options

- Extend the reduced fare program to include the peak hours of operation.
- Provide for feeder service to fixed-route transit.
- Provide access to mainline interstate transit services at reduced costs.
- Develop awareness programs for taxi-drivers so they will be more sensitive to the special needs of the elderly who are also handicapped.
- Develop driver education and driver improvement programs regarding age-related limitations, and develop standardized licensing and renewal procedures for elderly drivers.

Service, Service Design and Service Operation

- Where elderly are geographically dispersed, it may be necesary to encourage decentralization of services to make them more accessible to the elderly even though this approach may not be as efficient purely from a transportation point of view.
- Transit and special service providers might establish local "checkpoints" to serve "collector" or "distributor" stops, and to provide one-stop services for the elderly generally. This is particularly relevant for suburban and rural locations.
- In the same context of rural and suburban locations, states and local jurisdictions can explore the feasibility and potentials of a more coordinated efforts for providing services for the homebound and isolated elderly — including the provision of mobile units for the delivery of such services.
- A strong element of volunteerism was identified as part of this workshop's focus, which stressed that volunteer activity and programs could be accelerated. It was suggested that programs encouraging the use of "family" volunteers needed to be more aggressively developed as an important source of help and contributions for service development and operations.
- It was urged that state and local jurisdictions encourage the resources of public and private sector be more extensively and vigorously coordinated and integrated for the delivery of transportation services. In that context, state and local governments

may need to provide appropriate statutes and program supports that will encourage vanpools, carpools, and similar pooling arrangments for serving older people.

7. Equipment and Facilities

Over the decade of the 1980's, vehicles and equipment design will continue to be an important issue. The workshop on equipment and facilities design was concerned with the mobility limitations imposed by inadequate public transit vehicles and facility design. The participants felt that there was a considerable potential for accessibility design improvements, and expanded vehicle comfort features for the elderly. They also felt that more information needs to be distributed on vehicle peformance, especially in terms of their ability to serve elderly clients. It was observed that transit agencies need to give greater consideration to the use of small vehicles for serving the elderly. Rural operations were generally satisfied with vans, despite a number of problems, because they were easy to drive, were less costly, not too difficult to replace after 3 to 5 years of use, and their safety record was good. Large public-transit vehicles were more difficult for the elderly by reason of the lack of handholds on lift-equipped buses or rear door "pushout" designs that needed considerable strength to open. The workshop felt that a number of important strategies and policies need to be emphasized and pursued over the decade, including:

- Leaving decisions on vehicle specifications and selection in the hands of the local operator, subject to more general "performance" criteria.
- Although a considerable amount of material has already been distributed on the performance of paratransit vehicles, broader disseminating of experience to private and public transportation operators would be helpful.
- Evaluating the impact of accessibility requirements on the design of vehicles of all sizes in terms of the differing requirements of disabled and non-disabled elderly persons.

8. Mobility

The workshop on mobility considered questions such as the basic number of trips needed by the elderly, the purpose for which trips are made, the amount of income the

user has available for transportation, and the level of service available in both qualitative and quantitative terms. The following strategies of interest and relevance to states and local jurisdictions were identified:

- Mobility is a measure of the **number** and **types** of trips taken, and states and local jurisdictions have to consider all strategies that enhance these two attributes. In this context, incentives and stimulus could be provided to encourage transit and other transportation providers to coordinate their service with human service agency transportation providers as a means of improving the mobility of the elderly.

- No single transportation option can meet **all** the needs of the elderly. A multiple range of options will need to be identified and implemented, particularly at the local level. Strategies for improving the mobility of the economically and physically disadvantaged elderly need to be focussed around providing a "family' of integrated services through private and public services.

- There is some indication that the disability mix of the elderly may require a somewhat different accessibility focus than the current dominance of "wheel chair" strategies. In developing local transportation services, state and local jurisdictions should relate the differences in the accessibility needs of the elderly specifically to vehicle and service characteristics such as "kneeling" buses vs. lifts, paratransit vs. conventional transit, etc.

- Given the anticipated increase in the number of licensed elderly women drivers in the next decade and the increase in "frail" elderly, aged 75 years or more, states and local governments will have to design strategies that will facilitate and encourage car ownership and use by the elderly, consistent with problems of energy supply, the availability of alternative transportation, and the capacity of the elderly to operate the vehicle with safety. Examples of appropriate strategies include cooperative ownership by elderly living in group housing or congregate facility, rental and/or group leasing schemes, car or van pool arrangements or similar approaches permitting shared vehicle use. In this vein, states should consider reviewing their license renewal requirements and practices to assure that discriminatory practices are not inadvertently being followed because of misconceptions about elderly drivers.

9. System Operations

A range of issues associated with the operation of transportation services were considered by this workshop. Discusions included problems concerning vehicle and liability insurance, the availability of training and technical assistance for planning and system development, the need for better information and marketing systems, the use of volunteers, and the role of government at the federal, state and local levels. Many of the comments and suggestions offered by this workshop were comparable to those of other workshops, and are not replicated. There were several comments covering system

operations that are of particular relevance for state and local governments:

- Since insurance costs are sometimes felt to be a major problem for many transportation providers serving the elderly, it was suggested that the states might consider encouraging these providers to organize into insurance associations that could develop driver training and vehicle operating programs designed to help reduce insurance rates.[9]

- With respect to volunteers, states could take more initiative in formulating necessary statutes or regulations to encourage ride-sharing and deal with the issue of the liability of volunteers and volunteer drivers. It was felt that these areas were particularly important for rural areas.

10. Research and Development

As was true for almost all of the workshops, there was considerable concern and consideration given by this group on the use of volunteers. Generally, over the next decade, it was felt that increasing use of volunteers would be necessary and better techniques for recruitment and management would be needed. Other areas considered by this group included vehicle design, planning and information, and technology transfer. Most involved federal action but several were especially relevant for state and local governments and organizations:

- Given the substantial reliance on volunteer staffs in the provision of transportation services to the elderly especially in small urban and rural areas, it was suggested that research be directed towards measuring trends in the future availability of volunteers; establishing what service impacts will occur if availability of volunteers diminishes; and identifying optional ways for recruiting more volunteers.

- There has been considerable work on the design problems associated with small vehicles serving the elderly and other disadvantaged through specialized paratransit services. In addition, there has emerged an extensive federally sponsored technology sharing program designed to get this information into the hands of planners and providers. The workshop indicated that the state could build upon this effort through its own information programs, translating technical reports into more readable terms for local service providers who may not be transportation specialists.

11. Energy and Inflation

Although the energy and inflation issues appear to have become less urgent recently, over the next decade they will continue to be critical and recurring problems. As noted earlier both have direct impact on costs, and, as the workshop noted, energy

and inflation are linked in that they affect decisions on the level of service and whether cutbacks are required in transit services for the elderly. Among the range of issues considered by the workshop were the impact of energy scarcity and inflation on service and strategies to reduce operating costs, such as bulk purchasing and pooling of supplies and equipment, consolidation of transportation services, and setting trip and service priorities. There are obviously important decisions to be made and policies to be developed and implemented at every level of government as well as in the private sector. In terms of providing guidance to state and local governments, the following recommendations were offered:

- In terms of state and local responsibilities, the workshop felt that the state role was to coordinate the use of available state energy and transportation resources and to monitor all related activities in the state. The local government could set the actual transportation service standards and priorities to be implemented by the local systems.

- To provide for effective use of scarce energy resources and to control costs during periods of rapidly rising prices, the workshop participants suggested that state and local jurisdictions consider having standby plans for vehicle pools, similar to motor pools used by the military, to assure that at least some minimum level of service is avaiable for the elderly.

- It was proposed that volunteers or part-time employed elderly persons should be used by interested agencies to track energy-related information coming out of the federal government and research findings on new technology, options, solutions and other information of relevance.

- When confronted by acute energy shortages, one useful approach is to relocate essential social services so that such services and facilities are located in one place and thereby reduce the amount of travel and transportation required to obtain service. A related consideration that needs to be taken into account is the comparative costs and advantages between a home delivery approach versus bringing the elderly to services.

12. The Elderly and Transportation Service Advocacy

Public involvement, from the federal view, is not intended to be a rubber stamp but a process of genuine involvement of citizen groups. Given the role of citizen participation in transportation planning, among the issues identified by the workshop were how to expand such participation through training, technical assistance and information distribution, and how to encourage elderly citizens to take part in monitoring

transportation systems serving the elderly. State and local governments have an important advocacy role, and the following recommendations were of specific relevance to these governmental levels:

- State and local requirements in this area need to recognize that public involvement of the elderly at the policy making, advisory, planning, and implementation levels of transportation programs is advisable.
- State and local groups should consider conducting educational programs and community forums in small groups where elderly persons feel more comfortable in free discussion of the issues. These groups could be used to provide insight and "training" for citizen advisory boards, particularly in technical areas in order for them to be able to more effectively fulfill their role as citizen participants in the transportation planning and implementation process.
- Adequate transportation needs to be provided if local officials want active participation by the elderly in public hearings, and these meetings should be held in locations accessible to the elderly.

13. Personal Transportation and Pedestrianism

Transportation in the form of trips by personal automobile, trips provided by family, friends and neighbors remains a significant source of transportation for older Americans. Since the number of older Americans is increasing, it is safe to assume that there will be a corresponding increase of elderly drivers. At the same time, pedestrianism is also an important activity for older people. In the light of these two considerations, the workshop identified a number of key issue areas including assurance that older drivers will be given adequate consideration in driver licensing and renewal procedures; the opportunity to purchase automobile insurance; problems related to driver retraining; and issues of auto safety and the accident record of older drivers. A number of options were identified for consideration by states, local jurisdictions, and local associations.

- Licensure renewal procedures that are not automatic but related to specific performance criteria which have to be met should not necessarily be age related. Consideration should be given by states to developing cooperative and standardized criteria among states.
- One option proposed for consideration by the states was the development of an advisory group of medical doctors to assist states in setting basic screening criteria for drivers including such aspects as physical limitations, necessary road driving

skills, knowledge of traffic laws, and the nature of the examination procedure itself. As part of this recommendation consideration should be given to having local examining boards with greater latitude to review conditions on restricted licenses for the elderly.

- Given the large number of frail elderly expected in the decade of the 1980's, the provision of transportation support of such elderly by family, friends and neighbors should be encouraged. In this context, innovative uses of personal automobiles for neighborhood transportation system can be explored and encouraged as a means of improving transportation services for the elderly. Suggestions included cooperative ownership or leasing, rental agreements, car pools, and volunteer automobile service.

- Local organizations can explore the feasibility of a system of voluntary relinquishment of private cars to non-profit local agencies who would assume upkeep and maintenance of these vehicles in exchange for free or low cost transportation for the donor.

- Local governments can encourage developers of large retirement complexes, particularly if funded by public money, to include transportation services as part of their essential services for residents, perhaps on a cooperative basis. The use of such transportation should be linked to essential services required by elderly residents, particularly shopping and related social activities.

- In view of the importance of walking for older Americans, states can give more consideration to developing better options for design of traditional automobile roadways and roadway signs, particularly as they relate to the elderly. In addition, large signs, large "walk" lights, and more sidewalks, shelters, benches and street furniture was suggested as means of encouraging more walking.

14. General Purpose Public Transportation

General purpose transportation includes both urban and rural transit services — an important source of transportation for the elderly even though the level and quality of service may vary from community to community. Among the issues considered by this workshop was the scope and impact of reduced fares and the future needs and requirements of the elderly. In addition to suggesting that the next decade would require greater flexibility in the use of funds by local jurisdictions, the group noted:

- Reduced fares have played an important part in providing improved services for older people and might be made available at all hours and not just the off-peak hours. Such a policy would, of course, have to be reflected in local transportation priorities.

15. Paratransit Services

Most of the present transportation programs serving the elderly take the form of paratransit systems. These were defined by the workshops as transportation services which do not use conventional fixed route transit. The workshop felt that over the next decade it would be important for public transit to recognize the importance of greater flexibility in the range of services they provide that will permit them to offer an integrated set of services to the elderly, other disadvantaged and the public generally. They will need to consider themselves to be a mobility center offering a family of services. A number of options and issues of relevance at the state and local levels were identified:

- In planning and implementing paratransit services during a decade of budget constraints states and localities should give some weight, at least in the initial operating state, to service needs of persons most in need.
- In setting local priorities it should be recognized that elderly persons constitute but one of many groups to be considered in planning such services. The heterogeneity of the elderly population should be recognized in assessing transportation needs.
- Paratransit systems should be encouraged to make full and practical use of all available community resources such as vehicles, management expertise and funding sources.
- The role of private taxi services as part of paratransit systems should be encouraged; technical assistance to local agencies in negotiating service contracts with taxicab operators should be made available by state authorities using model agreements.
- Additional costs incurred by taxi companies in furnishing shared ride services as part of paratransit plans need to be recognized by state and local agencies by only in the context of marginal cost pricing.

16. Interagency Coordination

This workshop concentrated its efforts largely on interagency coordination at the federal level although the primary focus was identification of strategies that would encourage the development of local transportation services. Some of the recommendations have relevance for state and local governments where interagency and intergovernmental coordination are important aspects of program development. The

issues and approaches enumerated below should be taken in that contextual relevance:

- Coordinated transportation planning should integrate conventional transit needs with the social needs of the elderly, and not separate social service transport from transit systems. This applies to both urban and rural areas.

- Coordination needs to include not only the coordination of funding sources but also the allocation of responsibility for service delivery and for determining payment for such services.

- The goals of coordination should be focused on a participatory management process, that is, to assure a better management of transportation resources, identify resource needs, and establish accountability for both state and local agencies involved.

FOOTNOTES

1 U.S. Administration on Aging, Improving Transportation Services for Older Americans. Vol 1 General Report. Prepared by the Institute for Public Administration, in association with Econometrics Inc., Washington DC, September 1980, page 1.

2 U.S. DOT, Summary Report Data from the National Survey of Transportation Handicapped People, UMTA, Washington, DC, June 1978.

3 In the context of sharp budget declines at the federal levels transportation programs such as those under Section 18 and 16(b)(2) appear to have done reasonably well.

4 U.S. Administration on Aging, Improving Transportation Services for Older Americans, op cit.

5 There is no biological basis for using age 65 (or any other chronological age) to define an older person or to characterize a class of people as aged. Legal affirmation of a specific age to denote the status of an individual and thereby qualify one for certain benefits or entitlements has its roots in ancient law. More typically the selection of a chronological age to define classes of people rests on social or political grounds; in some instances the selection of a specific age to identify the entry point for attainment of financial or other benefits may be a matter of administrative simplicity. The Social Security Act (as amended in 1965) used age 65 to denote the basic retirement standard and exerted a strong influence on the use of that age to denote the so-called elderly from the non-elderly. More recent legislative measures have challenged the use of age but these new laws have confused rather than clarified the issue. For example, the Older Americans Act of 1965 (as amended) uses age 60 as the point when men and women may qualify for its provisions. In 1978 amendments to the Age Discrimination in Employment Act established age 70 as the age when retirement from most of the labor force can be justified legally and revisions in the Social Security Act are likely to also shift the retirement age past 65. For the moment, however, U.S. Census and other descriptive data is more readily available with an age break at 65. It is the main reason why this monograph adheres to the use of age 65 to denote elderly persons.

6 Beth J. Soldo, America's Elderly in the 1980s, Washington, DC: Population Reference Bureau, Vol. 35, No. 4, November 1980, p. 12.

7 Congress of the United States, Congressional Budget Office, Public Works Infrastructure: Policy Considerations for the 1980s, Chapter III, Public Transit, Preface, page 37, April 1983.

8 Ibid, page 49.

9 William G. Bell and Joseph S. Revis, Report of the Mini-Conference on Transportation for the Aging, October 1980. White House Conference on the Aging, Washington DC, 1981.

10 A late 1980 survey of providers using the Older American Act funds indicates that almost 90 percent of the providers had no difficulty obtaining insurance and only 5 percent had ever had a policy cancelled. The cost problem appears more "perceived" than real. However, there was real resistance by the insurance agents to insuring projects using volunteers and given the importance of volunteers, training could help Administration on Aging, Improving Transportation Services, op cit.

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